CLAIM AMENDMENTS

Claims 1-2 (canceled).

Claim 3 (withdrawn). A probiotic for preventing and treating neonatal meningitis causing meningitic microbes, wherein said probiotic comprises live microorganisms in origin suppressing meningitic virulence factor.

Claim 4 (withdrawn). The probiotic, as recited in claim 3, wherein said meningitic virulence factor includes GimA.

Claim 5 (withdrawn). The probiotic, as recited in claim 3, wherein said meningitic microbes are selected from a group consisting E. *coli* K1 carrying GimA and Group B Streptococcus (GBS).

Claim 6 (withdrawn). The probiotic, as recited in claim 4, wherein said meningitic microbes are selected from a group consisting E. *coli* K1 carrying GimA and Group B Streptococcus (GBS).

Claim 7 (withdrawn). The probiotic, as recited in claim 3, wherein said meningitic microbes are selected from a group consisting of E. coli bacteria, GBS bacteria, Listeria moncytogenes bacteria, Pseudomonas species bacteria, Streptococcus pueumoniae bacteria, Neisseria meningitides bacteria, Haemophilus influenzae bateria, Citrobacter species bacteria, Canida albicans fungus, enteroviruses, herpes simplex viruses, and Toxoplasma gondii parasites.

Claim 8 (withdrawn). The probiotic, as recited in claim 4, wherein said meningitic microbes are selected from a group consisting of E. coli bacteria, GBS bacteria, Listeria moncytogenes bacteria, Pseudomonas species bacteria, Streptococcus pueumoniae bacteria, Neisseria meningitides bacteria, Haemophilus influenzae bateria, Citrobacter species bacteria, Canida albicans fungus, enteroviruses, herpes simplex viruses, and Toxoplasma gondii parasites.

Claim 9 (withdrawn). The probiotic, as recited in claim 3, wherein said live microorganisms include bacteria selected from a group consisting of Lactobacillus species, Bifidobacterium species, E. coli Nissle 1917, and probiotic bacteria carrying antigens against one or more virulence factors including GimA.

Claim 10 (withdrawn). The probiotic, as recited in claim 3, wherein said live microorganisms include yeast in origin suppressing one or more meningitic virulence factors including GimA.

Claim 11 (withdrawn). A probiotic method for preventing and treating neonatal meningitis caused by meningitic microbes, wherein said probiotic method comprises administering a therapeutically effective prebiotic agents enhancing benefit effects of probiotic organisms and suppressing one or more meningitic virulence factors.

Claim 12 (withdrawn). The probiotic method, as recited in claim 13, wherein said meningitic virulence factor is GimA.

Claim 13 (withdrawn). The probiotic method, as recited in claim 11, wherein said prebiotic agents include oligo-saccharides selected from a group consisting of fructooligosaccharides (FOS), inulin, lactulose and galactooligosaccharides.

Claim 14 (withdrawn). The probiotic method, as recited in claim 12, wherein said prebiotic agents include oligo-saccharides selected from a group consisting of fructooligosaccharides (FOS), inulin, lactulose and galactooligosaccharides.

Claim 15 (withdrawn). The probiotic method, as recited in claim 11, wherein said prebiotic agents include bacteria selected from a group consisting of Lactobacillus species, Bifidobacterium species, E. coli Nissle 1917, and probiotic bacteria carrying antigens against one or more virulence factors including GimA.

Claim 16 (withdrawn). The probiotic method, as recited in claim 11, wherein said prebiotic agentsare nondigestible food substances that improve health by stimulating the growth or activity of beneficial bacteria and suppressing said meningitic virulence factors including GimA

Claim 17 (withdrawn). A probiotic method for treating neonatal meningitis caused by meningitic microbes, comprising a step of administering a therapeutically effective prebiotic agents enhancing benefit effects of probiotic organisms and suppressing one or more meningitic virulence factors.

Claim 18 (new). A method of providing a complete nucleic acid sequence encoding a 19 kb genetic island GimA- with 14 novel genes and with probiotic

functions contributing to the prophylaxis of neonatal meningitis and sepsis, comprising the steps of:

(a) identifying the Escherichia coli genetic island GimA- structure consisting of 14 genes;

(b) extracting and purifying said GimA- from said Escherichia coli structures;

(c) analyzing said extracted and purified proteins encoded by GimA-; and

(d) determining a complete nucleic sequence of GimA- excluding ibeA.

(e) identifying new homologues of GimA- by the use of both infectomics and metagenomics.

(f) identifying and engineering new probiotic bacteria carrying GimA- by the use of both infectomics and metagenomics.

Claim 19 (new). The method, as recited in claim 1, further comprising the steps of

(g) generating a ibeA in-frame deletion mutants of ibeA and other genes in GimA;

(h) combining an ibeA in-frame deletion mutants of GimA to their corresponding genes an ibeA to form a transformants;

(i) conducting complementation analysis to test an invading ability of the restored mutants to host cells including brain microvascular endothelial cells (BMEC);

(j) identifying IbeA-binding proteins which include polypyrimidine tract-binding protein (PTB)-associated splicing factor (PSF), p54nrb, and vimentin;

(k) identifying nicotinic receptor (nAChR) and N-methyl-d-aspartate (NMDA) receptor agonists/antagonists for preventing and treating neonatal bacterial meningitis caused by IbeA+ *E. coli* K1;

(l) identifying anti-apoptotic agents against IbeA- and other virulence proteins-induced neuronal apoptosis; and

(m) identifying IbeT as a novel invasion protein and Na+/H+ antiporter (NhaC) providing the link between response to acidity, osmotic stress and virulence in meningitic *E. coli* K1.